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Los Alamos

National Laboratory

Environmental Stewardship Division

Quality Management Plan

for the

Meteorology and Air Quality Group (MAQ)

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**History of
revision**

Revision	Date	Description of Changes
0	11/30/95	New document.
1	10/10/96	Revision into new format and extensive additions to reflect new organizational structure.
2	12/22/98	Revised chapters <i>Performance Appraisals, Planning and Performance of Work, Analytical Chemistry, Data and Software Management</i> . Revised organization chart. Added new chapter <i>Off-Normal Events</i> .
3	2/11/99	Added chapter <i>Waste Management</i> to implement new ESH Division requirements.
4	12/12/00	Revised definition of deficiency, included effluent in <i>Environmental Sampling and Control of Samples</i> chapters, added words on use of qualified persons or organizations in equipment calibration and maintenance chapters, added new chapter <i>Management Walk-arounds</i> , and added new chapter <i>Student Program</i> .
5	8/23/01	Added chapter for chemical hazard control plan, added block on compliance with DOE O414.1B, added words to chapter <i>Project Plans</i> about compliance with DOE O414.1B, and referred to Stop Work policy in Section 5.
6	3/18/02	Added chapters <i>Public Involvement, Public Dose ALARA, and Airshed Management</i> .

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General Information, continued

Revision	Date	Description of Changes
7	2/28/03	Added chapter on ESR preparation, added words in <i>Environmental Permitting and Management Walk-arounds</i> , changed references to former division, and changed references in numerous places.
8	4/22/05	Revised mission; added reference to newly acquired Soils, Foodstuffs, and Biota program; added requirement to follow LIR 308-00-05 for software control; added chapter on Emergency Response; and added reference to BioSafety requirements for Soils, Foodstuffs, and Biota program.

Section 1

Quality Program

Organization

Introduction This plan specifies how the Meteorology and Air Quality Group (MAQ) performs air quality activities for Los Alamos National Laboratory (LANL or the Laboratory).

Group mission The Meteorology and Air Quality Group (MAQ) provides regulatory compliance and environmental surveillance leadership and services to meet Los Alamos National Laboratory (LANL) air quality obligations and public assurance needs by:

- Developing and implementing programs to ensure institutional compliance with State and Federal Laws related to air quality regulations.
- Developing and implementing programs to ensure institutional compliance with applicable (according to the UC/DOE contract) DOE Orders for:
 - air quality surveillance,
 - soil, foodstuffs, and (nonfoodstuffs) biota monitoring, and
 - dose assessment activities.
- Developing and implementing programs to supply high-quality meteorology data, forecasts, and analyses for the support of Laboratory operations, safety initiatives, and emergency response.
- Developing and implementing programs, according to ISM (integrated safety and security management) and EMS (Environmental Management System) principles, that ensure line management is provided with sufficient information to make informed decisions regarding air quality issues.
- Developing and implementing programs to address community concerns related to air quality issues.

Organization, continued

Regulatory drivers	<p>The drivers for the development and implementation of programs in MAQ are the applicable parts of:</p> <ul style="list-style-type: none">• 40 CFR Part 50 through 93 Air Programs• New Mexico Air Quality Control Regulations 20 NMAC Chapter 2• DOE Order 450.1, Environmental Protection Program• DOE Order 5400.5, Radiation Protection of the Public and the Environment• DOE Order 151.1, Comprehensive Emergency Management System (meteorological activities for emergency management)• DOE Order 414.1B, Quality Assurance• DOE Order 231.1, Environment, Safety, and Health Reporting
Other drivers	<p>Other drivers for MAQ include</p> <ul style="list-style-type: none">• Responding to requests for technical assistance in meeting surrounding community needs for air quality monitoring and information• Providing support to the Laboratory for compliance with regulations and LIRs.
DOE Order 414.1B	<p>Compliance with DOE Order 414.1B (“Quality Assurance”) is required by the DOE and LANL for all organizations. This plan is structured to address the 10 criteria of the order and each section explains the group’s requirements for compliance with the corresponding criterion.</p>
Organization	<p>The group leader and deputy group leader have line management responsibility and authority for personnel, safety, performance, and budget in MAQ. Reporting to the Group leader, the team leaders are delegated authority for budget allocation and for performance assessment input for performance appraisals for MAQ staff assigned to them. The team leaders also have first line supervisory authority to ensure MAQ projects are completed according to quality specifications and budget obligations. The group leader appoints team leaders. The deputy group leader has full authority to act in the place of the group leader whenever the group leader is not available.</p> <p>The current group organization chart is presented as Appendix A (MAQ Organization Chart).</p>

Organization, continued

Implementation The following table lists specific responsibilities.

Who	What
Group leader and deputy group leader	<p>Define overall MAQ goals and objectives aligned with ENV-DO and Laboratory goals and objectives. Ensure work meets quality specifications and budget obligations.</p> <p>Define teams and projects within the group.</p> <p>Ensure ENV-DO has current MAQ Org Chart.</p> <p>Appoint team and project leaders.</p> <p>Allocate budget to team leaders.</p> <p>Ensure trained and qualified workforce is available to accomplish work on projects.</p> <p>Communicate work expectations to team and project leaders and group members.</p> <p>Communicate with team and project leaders and group members to determine status of issues related to projects.</p> <p>Communicate with team and project leaders and group members on issues related to safety, security, and environment.</p> <p>Track overall group budget.</p> <p>Ensure projects have budget and are properly staffed.</p> <p>Provide first line supervision of team leaders.</p> <p>Develop approach and specifications for quality assurance across projects and provide support to team and project leaders in implementation.</p> <p>On an annual basis, prepare written project descriptions, clearly outlining technical scope, personnel, budget, and schedule – with the appropriate product, cost and work breakdown structure milestones.</p> <p>Track project budget, schedule, and progress.</p>

Organization, continued

Who	What
Team leaders	<p>Manage the tasks and staffing of the project in order to deliver the project product(s). Provide first line supervision of personnel assigned to the project. Plan, assign and manage tasks in order to</p> <ul style="list-style-type: none"> • Ensure personnel are properly trained for assigned tasks. • Ensure personnel follow prescribed work procedures and safety guidance. • Ensure tasks are completed on schedule, on budget, and meet quality specifications. <p>Communicate with staff and provide guidance, peer review, and technical problem resolution.</p> <p>Evaluate the productivity and suitability of staff and recommend changes, as needed, to increase the productivity and skill level of staff. Provide input to performance appraisals and salary increases.</p> <p>Communicate with group leader on issues that could result in failure to meet project goals or institutional requirements. Document any resulting significant decisions that affect project policy or processes and communicate decisions to project members.</p> <p>Revise appropriate procedures or plans, if necessary.</p>
Project and team members	<p>Accomplish the assigned work in a manner that meets quality specifications in quality plans and procedures and meets specified milestone timetables.</p> <ul style="list-style-type: none"> • Communicate with project or team leader on progress of work assignments. • Account for the delivery of all work assignments. • Bring technical problems with work assignments to the attention of the project or team leader.

MAQ Quality Management System and ISM Integration

MAQ Policy MAQ products will meet quality specifications provided by this group Quality Management Plan (QMP), project-specific quality assurance project plans (QAPPs), implementing procedures, and Laboratory policies. The principles and requirements of ISM (LAUR-98-2837, Rev. 4, “Integrated Safety Management Description Document”) and Environmental Management Systems (EMS) will be integrated in all aspects of the MAQ Quality Management System. This integrated quality management system will ensure work, health, safety, security, and environmental specifications are met.

Document hierarchy MAQ follows a system of documented plans and procedures. The MAQ quality management system consists of the

- group-level quality management plan (this document)
- quality assurance project plans
- implementing procedures

ISM expectations will be integrated into all documents in this hierarchy to assure that all work follows the principles of ISM.

Revising and distributing this plan The group leader and a chosen reviewer will approve all revisions to this plan.

This plan will be made available under the group document control program (see Section 4 *Document Control*, page 24).

Project plans MAQ will develop and maintain documented plans for all projects. MAQ will follow either EPA or DOE guidance to develop project plans, depending on the nature of the project work. Regardless of the format selected, MAQ project plans will fulfill DOE O414.1B requirements.

See Section 4 *Development of Project Plans*, page 28, for information on how to develop plans.

The project plans existing to date are:

- Rad-NESHAP Compliance (MAQ-RN)
- Radiological Air Sampling Network (MAQ-AIRNET)
- Meteorology Monitoring Project (MAQ-MET)
- Direct Penetrating Radiation Monitoring Network (MAQ-DPRNET)
- Neighborhood Environmental Watch Network (MAQ-NEWNET)
- Asbestos Reporting Project (MAQ-ASBESTOS)
- Title V Operating Permit Compliance Project (MAQ-OP)
- Beryllium Stack Monitoring at TA-3-141 (MAQ-BM)

MAQ Quality Management System and ISM Integration, continued

- Beryllium NESHAP Compliance Project (MAQ-BeNESHAP)
- Regulatory Review and Permitting Project (MAQ-RRP)
- Ozone Depleting Substances Compliance Project (MAQ-ODS)
- Environmental Dose Assessment (MAQ-DOSE)
- Non-Radiological Air Sampling Network (MAQ-NonRadNET)
- Soils Monitoring Project (MAQ-SOILS)
- Foodstuffs and Biota Monitoring Project (MAQ-FOODS)
- Biota Dose Assessment (MAQ-BIOTA)

Procedures

Every MAQ process of sufficient complexity, that is done repeatedly, will be described in an implementing procedure. Procedures are developed, reviewed, and approved in accordance with MAQ-022 (“Preparation, Review, and Approval of Procedures”) and MAQ-035 (“Work Safety Review and Authorization”). Procedures are reviewed and updated as required on an annual basis. Requirements of Integrated Work Documents (IWDs) will be incorporated into all procedures assuring all work in the group is authorized as required by ISM.

Working with other groups

MAQ routinely works in partnership with facility managers, subcontractors, and other Laboratory groups and divisions to achieve our mission. The group will identify responsibilities and quality assurance requirements for these partners in our project plans or in other Laboratory documents such as Laboratory Implementation Procedures (IMPs) or Memoranda of Understanding. The group will pass through requirements using a graded approach to scale the level of requirements to the importance or the critical nature of the work or data provided. Such requirements could include recordkeeping, certification of data integrity, or a complete quality program.

Implementation The following table lists responsibilities.

Who	What
Group leader	Approve this plan and all revisions to this plan; choose a reviewer to review all revisions to the plan. Approve all group procedures.

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MAQ Quality Management System and ISM Integration, continued

Who	What
Team leaders	<p>Develop quality project plan, following appropriate guidance or standards, to prescribe requirements for the project.</p> <p>Ensure quality requirements imposed on other groups or organizations are documented in quality plans or other appropriate requirements documents.</p> <p>Review and approve all procedures applicable to their project.</p>
Procedure preparers	<p>Describe in implementing procedures any essential internal and external interfaces with other organizations and their quality programs.</p>

Section 2

Personnel Development

Personnel Qualification and Recruiting

MAQ Policy All group personnel will be qualified through a combination of education, experience, and training to perform their assigned tasks. The group will recruit a diverse workforce adhering to Laboratory personnel (Human Resources Division) policies and procedures for hiring. The group will maintain documentation of qualifications of all personnel.

Implementation The following table lists responsibilities.

Who	What
Group leader, project leaders, or team leaders	Establish and document job descriptions for each position, including education and skills, knowledge, and abilities required. Review applications, conduct interviews, and select qualified candidates.
Group leader	Make final selection of applicants for the job(s).
Group training coordinator	Maintain current personnel qualification documentation for all group employees (such as current resume).

Personnel Training and Professional Development

MAQ Policy New group employees will receive orientation and training to meet their respective job duties, responsibilities, and authorities. This orientation will include the principles and expectations of integrating safety into the work of MAQ. When changes to job assignments are made, re-orientation and training will be conducted as necessary for each employee. Personnel will continue to receive the necessary training to achieve proficiency with job assignments and to ensure that worker health and safety is maintained. Professional development opportunities will be encouraged beyond basic qualification training. Records will be maintained by the group to document job-specific training.

Group training will be read (“self-study”), on-the-job, or classroom training, depending on the nature of the work, and will be documented according to MAQ-024. The level of training needed will be reviewed during procedure preparation and approval according to MAQ-022.

Professional development MAQ requires specific skills to accomplish its missions. Those skills include:

- Health Physics
- Chemical Engineering
- Mechanical Engineering
- Meteorology
- Analytical Chemistry
- Environmental Law
- Environmental Science
- Quality Assurance
- Industrial Hygiene
- Computer Science

Professional development in these areas will be encouraged and supported by group management.

Implementation The following table lists responsibilities.

Who	What
Group leader	Ensure new employees receive orientation to their respective responsibilities, authorities, and requirements documents governing the work they perform, according to procedure MAQ-032. Identify opportunities for professional development. Ensure employees have a coordinated training plan according to procedure MAQ-024. Make decisions regarding allocation of training and professional development resources.

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Personnel Training and Professional Development, continued

Who	What
Group Training Coordinator	Maintain the system to track training plans and records according to procedure MAQ-024.
Team leaders	<p>Ensure new team employees receive orientation to their respective job duties, authorities, and requirements documents governing the work they perform, according to procedure MAQ-032; and ensure all project team members receive coaching and/or mentoring for their respective job duties.</p> <p>Ensure reorientation is conducted, as necessary, to adapt to changes in an employee's assigned work and in requirements governing the work performed.</p> <p>Determine project-specific training needs of project team members. Ensure all project team members receive and document the training required (according to procedure MAQ-024).</p> <p>Review project team members' training plans and qualification documentation annually.</p> <p>Identify opportunities for professional development.</p>
Team members	<p>Share responsibility with project or team leader and group leader for identifying and obtaining necessary training.</p> <p>Identify opportunities for professional development.</p> <p>Coach and mentor other employees whenever possible and appropriate.</p>

Performance Appraisals and Feedback

MAQ Policy Performance appraisals will be conducted annually by group management in accordance with Laboratory (AM 109) and ENV Division requirements. In addition to this formal appraisal process, feedback throughout the year is encouraged. This feedback will go beyond individual performance and may address issues such as management performance, personnel development, job satisfaction, etc.

Implementation The following table lists responsibilities.

Who	What
Group leader	<p>Initiate performance appraisal process.</p> <p>Appoint lead supervisors (the group leader, program administrator, or team leader) for drafting performance appraisals for individuals in the group. Every individual will have a lead supervisor for developing the final performance appraisal.</p> <p>Obtain and file all draft performance assessment preparation material in confidential file.</p> <p>Schedule performance assessment deadlines and deliverables.</p> <p>Manage overall process in the group according to requirements in AM 109.</p> <p>Review and sign all performance assessments.</p> <p>Provide routine feedback to project leaders, team leaders, and group members throughout the year. This will include both positive feedback and constructive criticism.</p>

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Performance Appraisals and Feedback, continued

Who	What
Team leaders	<p>Meet with other supervisors, project leaders, and/or team leaders to discuss appraisal process, individual's accomplishments, discussion items, etc., and prepare a supervisor's worksheet.</p> <p>Obtain employee's input on Employee Performance and Development Plan that includes all accomplishments over all projects.</p> <p>Draft performance appraisals.</p> <p>Obtain /resolve comments from other supervisors of individual.</p> <p>Submit performance appraisal to group office for review.</p> <p>Coordinate and perform oral performance appraisal.</p> <p>Provide routine feedback to supervised group members, at a minimum. This will include both positive feedback and constructive criticism.</p>
All employees	<p>Submit employee input to lead supervisor describing all accomplishments during the performance year.</p> <p>Provide routine feedback to immediate supervisor on issues of job satisfaction, personal development, and any other issues of concern. This will include both positive feedback and constructive criticism.</p> <p>Request feedback from immediate supervisor whenever clarification of expectations is needed or desired.</p>

Student Program

MAQ Policy Undergraduate (UGS) and Graduate (GRA) students will be actively recruited to obtain the best technical assistance for long term commitment (1 to 3 years) with the goal of positive student growth. Recruitment and placement will follow all LANL procedures and policies regarding student hiring (AM 1104, AM 1106, and AM 1116). All students will have a mentor/supervisor that will assume responsibility for assurance of training.

Implementation The following table lists responsibilities.

Who	What
Group Leader	Approve student hires.
Team leaders	Recruit and propose student hires. Document job assignments. Prepare student work plan according to LANL requirements. Act as mentor/supervisor and assure laboratory-required training is completed. Assume safety and security line manager responsibilities.
Students	Know and follow all requirements related to safety and security.

Section 3

Quality Improvement

Continuous Improvement

MAQ Policy The group subscribes to the principles of problem prevention and continuous improvement. All personnel are encouraged to identify and suggest improvements to all group processes and activities.

Implementation The following table lists responsibilities.

Who	What
Group Leader	<p>Ensure an atmosphere exists that allows employees to suggest improvements and opportunities to prevent problems, improve environmental compliance, reduce environmental impacts, and enhance safety and security.</p> <p>Take appropriate action on suggestions made by employees. Appropriate action may be implement, pass on to appropriate management, or explain why it cannot be implemented.</p> <p>Track any safety and security issues through the management walk-around system.</p>
Team leaders	<p>Ensure an atmosphere exists that allows employees to suggest improvements and opportunities to prevent problems, improve environmental compliance, reduce environmental impacts, and enhance safety and security.</p> <p>Identify individuals who have shown positive continuous improvement behavior for application of the LANL award program.</p> <p>Identify customers and obtain their suggestions for improvements on a routine basis.</p>
All employees	<p>Identify opportunities for process improvements, process simplification, health and safety enhancement, environmental protection, or other improvements of the group's operations.</p> <p>Discuss such opportunities with a project leader, team leader, or the group leader.</p>

Deficiencies and Corrective Action

MAQ Policy Group personnel will take action when a deficiency (failure to meet external or internal requirements in laws, regulations, or requirements documents, including safety issues or accidents) is found. This action may include immediate correction of the deficiency. All deficiencies must be reported according to project requirements, verbally or in writing, to either the team leader or the group leader. Project leaders, team leaders, and group management will take timely action to correct deficiencies. Team leaders or the Group Leader will document deficiencies and their correction. These data will be used to identify systemic weaknesses in quality management.

Implementation The following table lists responsibilities.

Who	What
Group Leader	Foster an atmosphere in which deficiencies are reported and corrected. Ensure deficiencies are documented. Periodically review deficiencies for trends or systematic problems and implement any appropriate management corrections.
QA Officer	Maintain the implementing procedure (MAQ-026) to describe the process for documenting deficiencies and their resolution by responsible individuals.
Project and team leaders	Foster an atmosphere in which deficiencies are reported and corrected. Ensure that level of deficiency documentation and corrective actions is appropriate by considering how a deficiency: <ul style="list-style-type: none">• affects completeness, cost, compliance or quality of work• affects project goals, deliverables, or schedules• represents unacceptable equipment or supplies• represents an opportunity for quality improvement. Communicate relatively serious deficiencies at a team leader meeting.

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Deficiencies and Corrective Action, continued

Who	What
All employees	Identify any deficiencies and report them to the team leader or group leader. Describe how work or products were affected. Document the deficiency appropriately (see MAQ-026).
Responsible team leaders or Group Leader	Assign knowledgeable individuals to prepare and implement a correction for the deficiency, and ensure it is adequately evaluated and corrected (see MAQ-026).

Section 4

Documents and Records

Procedures

MAQ Policy When a process must be performed in a consistent manner, or when failure to perform a process in a certain manner could result in significant negative impact to a project's quality specifications, a procedure will be written to govern or control that process. Procedures will be reviewed annually to determine if they need revision.

Implementation The following table lists responsibilities.

Who	What
QA Officer	Maintain implementing procedure (MAQ-022) that describes the process for preparing, reviewing, and approving procedures within the group. Ensure process owners annually review all procedures, facilitate any needed revisions, and document the annual reviews.
Group Leader	Approve all procedures.
Team leaders	Determine which procedures are to be developed for the project and assign preparers. Review and approve all procedures applicable to their project.

Continued on next page.

Procedures, continued

Who	What
Procedure preparers	<p>Prepare all procedures according to MAQ-022 and accurately prescribe the work processes.</p> <p>Ensure that procedures comply with Laboratory requirements to evaluate the safe operating conditions for an operation, when required, and include environment, safety, security, and health considerations of the operation according to MAQ-035. Obtain review by appropriate HSR division safety groups if the procedure contains safety-related steps or other safety hazards that require review.</p> <p>Ensure procedures list any wastes generated and describe steps to properly and legally dispose of the waste.</p> <p>In the procedure, list the training required before an employee may perform the procedure.</p> <p>In the procedure, list documents that are to be maintained as records and submitted to the records management system as a result of the process described in the procedure.</p> <p>For documents that present technical data and that will be posted on a public web site, obtain security review.</p>

Records Management

MAQ Policy Records will be maintained and protected to document critical processes and compliance with requirements.

Implementation The following table lists responsibilities.

Who	What
Records coordinator	Maintain the implementing procedure (MAQ-025 or others) to describe the group-wide records management system, incorporating the applicable guidance from the Laboratory Quality Assurance Guidebook, DOE Orders, and Laboratory guidance. Include in the procedures any requirements for records disposition, storage, and retrievability. Maintain all records resulting from group work processes.
Group Leader, team leaders	Ensure appropriate records that document compliance with critical processes and requirements are preserved.
All employees	Determine the records that are critical or essential to prove compliance with a requirement. Submit such records to the records management system. Other records may be submitted at the employee's discretion.
Procedure preparers	When writing procedures, list the documents to be maintained as records and submitted to the records management system as a result of the process described in the procedure. See Section 4 (<i>Procedures</i> , page 21) for more information.

Document Control

MAQ Policy Controlled documents will be distributed and made available to personnel performing the work described in the documents. A control and distribution system will be established to track documents that describe or control work.

Implementation The following table lists responsibilities.

Who	What
Office Administrator	Ensure the implementing procedure (MAQ-030) describes the process for controlling group procedures or other documents and implements requirements established by the Information Management Division (or its successor). Prepare controlled documents for posting on the group's web page.
Group Leader and team leaders	Periodically review controlled procedure distribution lists to ensure all employees will have available, in or near their work areas, any controlled procedure that governs work in the work area. Determine which instructions, specifications, drawings, and safety documents must be controlled along with all plans and procedures.
Employees	Before performing work, determine whether an applicable procedure exists and ensure that required training has been documented.

Section 5

Work Processes

Work Planning and Hazard Review

MAQ Policy Work that contributes to achieving the mission of MAQ will be planned, documented, and tracked. Work planning will be consistent with the principles of Integrated Safety Management (ISM), environmental management systems (EMS), Integrated Safeguards and Security Management (ISSM), and in compliance with LIR 300-00-00. MAQ will conduct and document a hazard review of non-office work that does not require an IWD. Work will be approved through the PR-ID process when required (see [LIR 210-01-01](#)). All personnel will understand and operate within the parameters of facility safety plans, Facility-Tenant Agreements, and associated requirements. Procedures will be reviewed for hazards by the MAQ Safety Committee, team leader, and group leader. Team leaders will provide first line supervision of personnel assigned to project tasks and ensure work is performed in a safe manner and achieves project quality specifications.

Implementation The following table lists responsibilities.

Who	What
Group Leader	Maintain a set of group-wide objectives and track progress toward those objectives. Foster an atmosphere in which safety and security awareness is practiced. Appoint members to the MAQ Safety Committee. Conduct management walk-arounds on a monthly basis. Authorize all work in MAQ. Communicate applicable Facility Tenant Agreement requirements to group members.

Continued on next page.

Work Planning and Hazard Review, continued

Who	What
Team leaders	<p>Develop a project plan according to the requirements for project plans (see Section 4 <i>Development of Project Plans</i>, page 28).</p> <p>Maintain a set of project objectives and track progress toward those objectives.</p> <p>Ensure implementing procedures (see Section 4 <i>Procedures</i>, page 21) are developed for critical or essential processes.</p> <p>Assist the MAQ Safety Committee in the implementation of Integrated Safety Management principles during review of procedures, hazard reviews, and IWDs.</p> <p>Ensure a hazard review is conducted (per MAQ-035) for all assigned work not covered in an MAQ procedure.</p> <p>Ensure work to be conducted in facilities or outdoors has been submitted through the PR-ID process or excavation permit system, as required.</p> <p>Provide first line supervision of personnel assigned to project work tasks and ensure work meets quality specifications of the project.</p> <p>Ensure all work conducted on the project is authorized.</p> <p>Understand and operate in accordance with applicable Facility Safety Plans and associated requirements; ensure work in facilities is reviewed and approved by facility managers.</p> <p>Appoint members to the MAQ Safety Committee to represent the team.</p>
MAQ Safety Committee	<p>Coordinate the identification of hazards, development of controls, and assure documentation of hazards and mitigation for all work in MAQ.</p> <ul style="list-style-type: none"> Annually review all procedures with associated hazard reviews and IWDs with relevant supervisors and workers as required by MAQ-035 and safe work practices. Make recommendations for hazard mitigation. Ensure non-routine work procedure (MAQ-035) is implemented group-wide. Make recommendations on level of work authorization.

Continued on next page.

Work Planning and Hazard Review, continued

Who	What
Employees	<p>Assist the MAQ Safety Committee in the implementation of Safe Work Practices.</p> <p>Make suggestions on how to improve safety in the workplace.</p> <p>Before initiating work,</p> <ul style="list-style-type: none">• become familiar with project plan requirements.• determine whether an applicable procedure exists.• determine required training for performing the task.• ensure that training has been documented.• use only controlled copies of procedures for performance of the work.• use non-routine work procedure (MAQ-035) for work not described in procedures.• perform work according to any applicable procedures. <p>Do not perform any work that is not authorized. Authorized work is work for which you have completed training documentation.</p> <p>Follow the Lab's Stop Work policy (see LIR 401-10-01) whenever conditions of imminent danger or other serious hazards are noticed.</p>

Development of Project Plans

MAQ Policy Quality assurance project plans will be developed for all MAQ projects. The MAQ QMP will serve as the upper-level document to all project plans. Project plans will identify environmental requirements in LANL air quality permits and will clearly identify how the Laboratory complies with those requirements. Project plans will specify the roles, responsibilities, goals, critical work processes required for compliance, records required for compliance, and performance metrics. Plans will use a format or standard that is appropriate for the project (e.g., EPA QA/R-5, DOE Order 414.1B, EPA 40 CFR Part 61, etc.). Any project plan that requires environmental data collection will use the EPA data quality objectives (DQO) process to develop data quality requirements. All project plans will comply with the content requirements of the laboratory's Quality Assurance Program (IP 300-SD) and DOE O 414.1B ("Quality Assurance"). Many requirements are addressed at the group level through this QMP and do not need to be repeated. Project plans will use the graded approach in addressing all requirements.

Implementation The following table lists responsibilities.

Who	What
QA Officer	Provide leadership and management for the development, coordination, and implementation of projects in coordination with: <ul style="list-style-type: none">• ENV deputy project directors• Line managers, line support teams and/or facility managers (if applicable) of affected organizations• LANL legal counsel Review and approve all new and revised project plans.
Group Leader	Review and approve all new and revised project plans.

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Development of Project Plans, continued

Who	What
Team leaders	<p>Prepare a project plan for the project that addresses the required elements given in the policy above. Use standards appropriate for the project and its customers (e.g., use EPA QA/R-5 for EPA compliance programs, DOE O 414.1B for laboratory customers, etc.). A sampling and analysis plan may be written as a supplement to the project plan to describe a sampling system that is common to two or more projects.</p> <p>If environmental or effluent data collection is required for a project, follow the DQO process (see EPA QA/G-4) unless specific requirements are identified in the applicable regulation or order. Include the project or team leader, a QA team member as a facilitator, a peer reviewer from another discipline in the group, and stakeholders if possible (DOE, decision makers who will rely on data, etc.). Document the data requirements in the plan.</p> <p>Annually review the project plan and make appropriate revisions.</p>

Waste Management

MAQ Policy MAQ will comply with Division and laboratory requirements for waste management and minimization, as specified in LIR404-00-01 (“Waste Acceptance, Characterization, and Certification Program”), LIR404-00-05 (“Managing Radioactive Waste”), and LIR404-00-02 (“General Waste Management Requirements”). Specific hazards, controls, and waste characterization processes applicable to a process will be evaluated and documented through the Hazard Reviews or IWDs (see MAQ-035) and communicated in the appropriate procedure. Team leaders will identify those employees who are considered waste generators and will ensure those employees receive required training.

Implementation The following table lists responsibilities.

Who	What
Group Leader	Ensure full compliance with all Laboratory, state, and federal requirements for waste management.
Team leaders	<p>Ensure waste issues are properly identified and documented in Hazard Reviews and appropriate procedures according to MAQ-035.</p> <p>Identify employees who generate waste and ensure those employees receive required training as waste generators.</p> <p>Ensure each supervised employee:</p> <ul style="list-style-type: none">• understands and complies with waste management requirements as specified in the appropriate group procedures and hazard reviews.• has been properly trained and follows all applicable regulations and procedures.

Continued on next page.

Waste Management, continued

Who	What
Waste generators	<p>Prevent the unnecessary generation of waste.</p> <p>Minimize the generation of waste to extent possible.</p> <p>Properly identify and document waste streams.</p> <p>Segregate low-level, mixed, hazardous, and nonhazardous waste streams.</p> <p>Ensure waste is packaged, marked, labeled, and stored properly.</p> <p>Comply with the requirements in applicable facility-specific procedures for waste operations within radiological control areas.</p>

Chemical Hazard Communication

MAQ Policy This chapter constitutes the “Hazard Communication Plan” required by LIR 402-510-01 for compliance with OSHA hazard communication requirements. MAQ operations fall under HAZCOM, rather than Chemical Hygiene Plan requirements, because the majority of operations are associated with creating products and conducting routine operations.

Team leaders will determine who is a chemical worker and ensure every chemical worker completes the course Hazard Communication Introduction. Team leaders will ensure material safety data sheets are available at work sites where chemicals are used. Hazards are communicated to workers via MAQ procedures, integrated work documents, or hazard reviews and all workers are required to follow a procedure or IWD for all work. Chemical workers will comply with requirements for storage, labeling, use, and transportation of chemicals.

Implementation The following table lists responsibilities.

Who	What
Team leaders	Determine which employees are chemical workers and ensure chemical workers receive training to the course Hazard Communication Introduction.
Group chemical coordinator	Maintain a current list of chemicals for the group and update the information monthly. Ensure LANL chemical tracking database reflects current inventory of chemicals within group. Ensure there is a material safety data sheet (MSDS) for each chemical listed in the group’s chemical inventory.

Continued on next page.

Chemical Hazard Communication, continued

Who	What
Chemical workers	<p>Attend Hazard Communication Introduction training and any other training required by supervisor.</p> <p>Participate in medical evaluations, as needed (e.g., for carcinogen use).</p> <p>Know where the group's current list of chemicals is located or obtainable.</p> <p>Have a MSDS for each chemical readily available to workers and know where the MSDS are located.</p> <p>Read and understand the MSDS, include the risks in IWDs, and identify measures needed to mitigate the risks.</p> <p>Keep the original container labels in good condition or replace them, as needed.</p> <p>Label secondary containers (name of owner, health and physical hazard warnings, and for carcinogens add "Danger" and "Carcinogen Hazard" labels).</p> <p>Change labels if new hazards are identified (e.g., a chemical is designated as a carcinogen).</p> <p>Properly store chemicals: do not store incompatible chemicals in the same storage units (for more specific info, see Attachments 5, 6, and 7 of Chemical Management LIR 402-510-01).</p> <p>Ensure any new chemicals received without barcodes are added to the building's chemical list.</p> <p>Label compressed and liquefied hazardous gas cylinders with contents and hazard warning. When a gas is classified in more than one category, the most stringent labeling requirements must be used. Gases supplied by LANL's Gas Plant should already have the proper labels applied.</p> <p>Properly use engineering controls and personal protective equipment (PPE) needed to mitigate hazards (should be identified in procedures and/or IWDs).</p> <p>Follow transportation requirements in LIR 405-10-01 when transporting chemicals.</p> <p>Report immediately to line managers and FMs (or EM&R at 911 or 7-6211 if line manager/FM designee cannot be found) all accidents, spill, and leaks that could result in occupational exposure, illness, injury, or environmental release.</p>

Review of New Regulations

MAQ Policy Periodic applicability determinations will be conducted for newly proposed and finalized regulations promulgated by Federal and New Mexico State air quality statutes and by DOE Order. Periodic review of new Laboratory operations will determine applicability status of Federal and New Mexico State Air Quality regulations. All applicability determinations will be documented and peer reviewed to determine need for revision of Laboratory policies and requirements.

Implementation The following table lists responsibilities.

Who	What
Group Leader	<p>Assign employees to review regulatory registers and regulations and obtain updates from the regulators in order to determine LANL applicability.</p> <p>Ensure subscription and distribution of environmental newsletters relevant to Clean Air Act and compliance.</p> <p>Assign employees to develop, document, distribute, and peer review appropriate laboratory requirements documents (e.g., LIRs) from interpretations of Federal and State air quality regulations.</p> <p>Assign compliance assurance program for specific regulations to existing project or team leaders or create new project to develop compliance program.</p> <p>Ensure timely notification to LANL operations and facility personnel of applicable requirements.</p>
Regulatory Review and Permitting Team	<p>Review regulatory registers and regulations in order to determine LANL applicability.</p> <p>Obtain legal council review as appropriate.</p> <p>Review LANL operational changes (PR-IDs, NEPA documents, or other requests) to determine applicability of Federal and State air quality regulatory requirements.</p> <p>Determine actions necessary to comply with requirements.</p> <p>Identify permitting or other compliance issues resulting from operational changes.</p> <p>Obtain peer review for compliance determinations.</p> <p>Notify operations and facility personnel of compliance requirements.</p>

Airshed Management

MAQ Policy The group develops programs to ensure airborne emissions from LANL operations are compliant with regulatory requirements and responsible measures are pursued to minimize airborne emissions to protect our Northern New Mexico airshed. To that end, the group recognizes that decreasing air emissions may result in increased impacts on other media (e.g., water, soil, waste). When this possibility is identified, the group will pursue a course of action that will minimize the collective impacts on the environment.

Implementation The following table lists responsibilities.

Who	What
Group Leader	Seek opportunities to responsibly minimize air emissions and their associated impacts. Ensure that impacts to other media are considered.
Team leaders	Identify opportunities to minimize air emissions. Work with Group Leader to identify other affected media and identify path of least environmental impact. Provide input into the documentation of air emissions impacts. Support the implementation of mitigating measures.

Public Involvement

MAQ Policy Public involvement is a process for identifying air quality stakeholders and obtaining their air quality concerns and ideas for MAQ programs. Stakeholders have included the New Mexico Environment Department DOE Oversight Bureau, Pueblos, environmental groups, and individual citizens. Public involvement is an essential part of assuring the protection of air quality. MAQ will publish on public web pages data and information such as verified data measurements, QA plans and procedures, compliance reports, and assessments.

Implementation The following table lists responsibilities.

Who	What
Group Leader	Promote the benefits of public involvement to MAQ group members and Laboratory customers. Provide input to the division outreach and communication efforts.
Team leaders	Identify stakeholders for their products. Identify presentations, reports, databases, websites, etc., that are of potential interest to stakeholders. Assist stakeholders in understanding MAQ calculations, assessments, and products. Request their input on these processes and products. Ensure all public presentation documents receive an LA-UR number as required by lab policy. Follow Division policies and procedures for public communication.

Public Dose ALARA

MAQ Policy LANL operations and facilities that are sources of radiation exposure to the public (via the air pathway or direct penetrating radiation), will be evaluated with ALARA (As Low As Reasonably Achievable) criteria when the dose impact to a member of the public is 3 mrem or greater per year.

This policy does not apply to environmental restoration site remediation or to the release of property having residual radioactive material. These topics are addressed in DOE memo "Procedure for the Release of Residual Radioactive Material from Real Property" dated June 16, 2000.

Implementation The following table lists responsibilities.

Who	What
Group Leader	Maintain public dose ALARA policy and publish it in LIR 404-10-01, "Air Quality Reviews," or superseding document. Obtain internal and external review of public dose ALARA policy.
Regulatory Review and Permitting Project Leader	Assure that procedures are in place to assess new and/or modified sources of radioactive air emissions and direct penetrating radiation.
DPRNET Project Leader	Review new and/or modified sources of direct penetrating radiation to identify sources requiring a public dose ALARA evaluation. Work with LANL operating groups on ALARA evaluations.
Rad-NESHAP Project Leader	Review proposals for new and modified sources of air emissions to identify sources requiring a public dose ALARA evaluation. Work with LANL operating groups on ALARA evaluations.

Environmental Permitting

MAQ Policy MAQ will help Laboratory operating entities apply for, negotiate, and comply with air quality permits required by State and Federal statutes. The group will provide laboratory operations with solutions allowing needed operational flexibility while minimizing costs for maintaining compliance. Emission limits will be proposed that reflect the needed operational flexibility and minimize the Laboratory's impact on the environment.

Implementation The following table lists responsibilities.

Who	What
Regulatory Review and Permitting Team	<p>Assist the Laboratory in the identification of sources at the Laboratory that require air quality permits.</p> <p>Ensure permit applications follow prescribed regulatory requirements for content and format.</p> <p>Ensure internal peer review of all draft permit applications before review by operating groups and facility managers. This review will focus on technical accuracy, operational flexibility issues, and long term cost effective permit maintenance, public health impacts, and other environmental concerns.</p> <p>Ensure facility and operating group review of permit application and incorporate relevant comments.</p> <p>Arrange classification, security, and OPSEC reviews.</p> <p>Request reviews by legal counsel and DOE.</p> <p>Provide LANL with the point of contact between operating entities and the NMED.</p>

Environmental Surveillance Report

MAQ Policy MAQ, with other division environmental groups, will schedule and coordinate preparation, review, and distribution of the annual site environmental report [also known as the Environmental Surveillance Report (ESR)] required by DOE Order 231.1. MAQ is responsible for the technical content of:

- Chapter 3 – radiological dose assessment
- Chapter 4: air surveillance
- Chapter 7: soil monitoring
- Chapter 8: foodstuffs and biota monitoring
- Appropriate appendices

In addition, MAQ contributes to and compiles the following sections:

- Executive Summary
- Chapter 1 - Introduction
- Chapter 2: Compliance

Implementation The following table lists responsibilities.

Who	What
ESR Coordinator	<p>Provide leadership for report format and emphasis.</p> <p>Schedule and coordinate ESR preparation in compliance with DOE Order 231.1 and ensure issuance by October 1.</p> <p>Coordinate resolution of content and format issues between DOE and LANL.</p> <p>Confer with division representative for final decisions on any conflicts.</p>
Authors	<p>Provide submissions to the coordinator.</p> <p>Respond to reviewers' comments.</p> <p>With the coordinator, determine the content required in assigned sections to meet requirements.</p>
ESR Compositor	<p>Format and compile the ESR.</p> <p>Maintain files of author submissions and comments.</p> <p>Maintain report distribution list.</p> <p>Post ESR on the web and print limited copies.</p>
ESR Editor	Edit for grammar and spelling prior to final publication.
ENV Division leader	Approve ESR content and format.

Environmental and Effluent Sampling

MAQ Policy Environmental and effluent sampling and data collection techniques will follow prescribed regulatory requirements, DOE Order guidance, or industry standards where possible. All sampling and data collection activities conducted by MAQ will be developed and planned by following the EPA DQO process or by addressing specific requirements within the applicable regulation or order.

Implementation The following table lists responsibilities.

Who	What
Team leaders	<p>Develop DQOs for environmental and/or effluent sampling and data collection (see Section 4 <i>Development of Project Plans</i>, page 28).</p> <p>Ensure environmental and effluent measurements are planned and performed following prescribed regulatory requirements, DOE Order guidance, or industry standards.</p> <p>Ensure appropriate implementing procedures are developed to prescribe sampling processes.</p>

Control of Samples

MAQ Policy Environmental and effluent samples will be controlled to maintain legally defensible data and to prevent cross contamination or data loss. Requirements for the control and tracking of these samples will be specified in the project plan or implementing procedures.

Implementation The following table lists responsibilities.

Who	What
Team leaders	Ensure procedures are developed to describe the following, as appropriate or necessary: <ul style="list-style-type: none">• a sample numbering and labeling system that reliably and legibly identifies samples and items.• chain of custody requirements.• sample holding times.• sample volumes required for analyses.• storing and shipping requirements.• sample status tracking.

Analytical Chemistry

MAQ Policy All analytical chemistry conducted on environmental or effluent samples will be procured from laboratories that endeavor to provide legally defensible, quality-assured data. MAQ will specify the quality requirements and data package deliverables in the statement of work that will enable the group to defend the data to any outside examination and completely document the circumstances under which it was created.

Implementation The following table lists responsibilities.

Who	What
Team leaders	Ensure appropriate sample analyses are requested. Ensure project data quality objectives are satisfied by the data quality requirements in the contract.
QA Officer	Conduct or request periodic formal assessments (see Section 10 <i>Assessing Suppliers</i> , p. 60) of all analytical chemistry vendors to demonstrate their capability to do MAQ work and their compliance with requirements.
Chemistry coordinator	Evaluate and select analytical laboratories to perform analytical work on environmental samples. Develop and provide complete, written statements of work to the contractor laboratory. Maintain up-to-date copies of all analytical procedures and quality plans from each vendor. Track samples dispatched for chemical analysis. Receive and evaluate the data packages for completeness. Ensure data quality requirements of the contract and data deliverables are met. Ensure analytical chemistry data transfer and upload to appropriate database(s).

Continued on next page.

Analytical Chemistry, continued

Who	What
Chemistry coordinator (continued)	<p>Ensure the following requirements are passed on to the vendor in the contract and/or statement of work:</p> <ul style="list-style-type: none"> • Use only EPA-approved procedures (e.g., 40 CFR Appendix B, Method 114 for radionuclides). • Do no subcontracting of samples. • Complete all analyses pursuant to existing QA Plan and software procedures compliant with EPA (QA/R-5) or DOE (O 414.1 or 10 CFR 830.120). • Perform analyses to meet the specifications in the statements of work. • Supply a data package that meets MAQ definition of defensibility. • Demonstrate timely delivery of data. • Document and maintain successful participation in national performance evaluation programs from EPA-EMSL-LV and DOE-EML. • Demonstrate ability to meet minimum detectable activity (MDA) requirements on each analyte. • Demonstrate staff qualifications of all personnel who will handle MAQ samples. • Possess appropriate DOE, NRC and/or State nuclear material licenses for each isotope. • Use calibration standards traceable to NIST; all isotopic tracer solutions should be traceable to NIST.

Data and Software Management

MAQ Policy All data essential to meet the specifications of project deliverables will be managed to ensure validity and security. Valid data have been checked for accuracy and ensured to meet data quality objectives. Secure data are protected against loss. Methods of data verification, validation, and security will be described in the project plan or implementing procedures. Calculation methods will be documented. Database and application software developed by or for MAQ that performs calculations or other significant operations on data used in compliance determination or data used to analyze impacts on the public health or environment will be considered critical software. Critical database and application software will have documentation sufficient to understand the structure, function, and usage of the software. MAQ will follow the LANL requirements defined in LIR 308-00-05 to determine software category.

Data may be released to the public when the data have been verified and validated and are approved by the responsible project or team leader.

Implementation The following table lists responsibilities.

Who	What
Team leaders	Ensure that data generated for the project deliverables are valid and secure. Coordinate development of software needs with IM team leader. Document all calculation methods of critical work in a procedure or project plan. Document the method of data verification, validation, and security in the project plan or implementing procedures.
Information Management Team leader	Identify and maintain a list of critical database and application software used in the group and ensure all software is categorized according to the requirements of LIR 308-00-05. Appoint critical database and application software owners. Assure information regarding computer security requirements are communicated on a regular basis to all members of MAQ.

Continued on next page.

Data and Software Management, continued

Who	What
Information Management Team members	<p>Develop methods for preparation of documentation, user guides, and manuals for critical software databases or applications.</p> <p>Provide technical support and data management expertise to users and owners of critical database and application software.</p> <p>Develop methods for:</p> <ul style="list-style-type: none">• identifying the latest revision or version of a critical software code.• notifying users of software that a new version is available.• ensuring critical software output is traceable to the software version used.• verifying and documenting that the software performs as intended.• backing up computer network server drives (see procedure MAQ-034).
Personal computer operators	<p>Back up critical and other significant software and data as appropriate on an MAQ network drive or on removable media.</p> <p>Process information in accordance with classification levels.</p> <p>Adhere to information and computer security process in accordance with Laboratory and group-specific requirements.</p>

Calibration and Maintenance of Measuring and Test Equipment

MAQ Policy All MAQ technical work that depends upon the accuracy of data will be performed using equipment for which the calibration status and limits of accuracy are known and controlled. Equipment requiring regular maintenance to ensure program requirements are met will be tracked and maintained.

Implementation The following table lists responsibilities.

Who	What
Group leader	Ensure calibrated equipment list is developed and maintained for the group.
Team leaders	<p>Use qualified persons and/or organizations to calibrate equipment used in project activities, as necessary.</p> <p>Ensure calibrated equipment is tracked on either the MSM-3 group's inventory or on a group-maintained list.</p> <p>If project personnel calibrate equipment, develop appropriate procedures to control the calibration, maintenance, accountability, and use of measuring and test equipment. Implementing procedures must satisfy the minimum requirements given in the Laboratory Calibration Program (OST308-00-00 on MSM-3 group home page) and in this section and will address:</p> <ul style="list-style-type: none">• Specified intervals for recalibration based on the item's required accuracy, intended use, frequency of use, item stability characteristics, manufacturer's recommendations, or other conditions affecting performance.• Calibration against a traceable reference standard or physical constant that has accuracy commensurate with the desired tolerance.• Record keeping for in-house calibrations or for instruments verified before use.• Labeling of the equipment to indicate its calibration status and reference to calibration procedure.• Laboratory requirements for calibration given in the Laboratory Calibration Program.

Continued on next page.

Calibration and Maintenance of Measuring and Test Equipment, continued

Who	What
All employees	<p>Observe calibration status labels or stickers. Do not use equipment that is past its calibration interval and notify the Laboratory standards and calibration group or responsible operator (e.g., HSR-4 RIC) for recalibration.</p> <p>Initiate a deficiency report whenever an uncalibrated instrument or equipment has been used to collect data.</p>

Maintenance of Equipment

MAQ Policy The group will maintain a list of all project-essential equipment (excluding equipment that needs calibration) that indicates whether the equipment needs to be maintained under an equipment maintenance program. Equipment that is critical to meeting the quality specification of MAQ products will be maintained under a preventive maintenance program. This program will be addressed in the project plan or implementing procedures.

Implementation The following table lists responsibilities.

Who	What
Group leader	Ensure a master equipment list is developed for the group in compliance with LIG 230-09-01.
Team leaders	<p>Provide a list of equipment used in the project (excluding equipment maintained by facility managers) to be added to the group's master equipment list.</p> <p>Develop preventive maintenance requirements for project equipment as appropriate.</p> <p>Use qualified personnel and/or organizations to perform preventive maintenance.</p> <p>If project personnel perform preventive maintenance, develop appropriate implementing procedures, or include in existing procedures, maintenance activities and maintenance log requirements for critical or essential equipment.</p>
Quality assurance officer	Collect input from team leaders to maintain the list of equipment in the group.

Emergency Response

MAQ Policy MAQ performs several specific emergency response functions for the Laboratory Emergency Operations Center (EOC) following the requirements specified in the LANL Emergency Management Plan ([LIR 403-00-01](#)) and its implementing procedures. Depending upon the specific emergency, MAQ may perform additional duties, within the framework of the LANL Emergency Management Plan.

MAQ will provide the Laboratory EOC with:

- weather forecasts
- 15 minute real time wind data
- real-time plume modeling capability
- dose assessment

Implementation The following table lists responsibilities.

Who	What
Group Leader	Appoints MAQ TSMs to serve as Emergency Technical Support Center (ETSC) coordinators and team members Assures that training requirements are met.
Meteorology Team	Provides the Laboratory EOC with: <ul style="list-style-type: none"> • weather forecasts, • 15 minute real time wind data, and • real-time plume modeling capability, Keeps plume dispersion modeling system current with LANL default accident scenarios supplied by EM&R. Participates in routine exercises and EOC working groups.
ETSC coordinators and team members	Train to EOC procedures. Participate in routine exercises and EOC working groups Assure that MAQ reference materials are kept current in the ETSC.

Off-Normal Events

MAQ Policy When significant off-normal events are detected, all members of the group will be notified as soon as practical.

Off-normal events include stack emission increases, elevated environmental measurements, and chemical or radiological spills inside or outside of buildings. All MAQ monitoring QA plans will include actions to be taken when off-normal results are identified.

Implementation The following table lists responsibilities.

Who	What
Team leaders	Notify all group members via e-mail when an off-normal environmental measurement is detected.
Group Leader	Notify other Laboratory groups that may have interest in the off-normal event. Notify upper management.
Employees	Be aware of requirements in LIR 401-10-01 (Stop Work and Restart) and stop any work that presents an imminent hazard to workers or the environment.

Property Control

MAQ Policy Group controlled property and capital equipment will be managed according to the requirements of the LANL Property Management Manual and AM 701.

Implementation The following table lists responsibilities.

Who	What
All employees	Notify the group property administrator when controlled equipment is moved or relocated to another room or building. Assure appropriate levels of property protection such as classification requirements, fire protection, and property accountability Ensure assigned property and keys are appropriately controlled and protected.
Group Property Administrator	Collect and communicate changes in group controlled property and capital equipment custodian and location to division property administrator. Issue and manage keys in compliance with Laboratory policies and guidelines on key/core requirements.

Laboratory and Field Notebooks

MAQ Policy Work recorded in a notebook or logbook will document who did the work, where, and when. It will be described in sufficient clarity and detail that will allow another person with equivalent training and experience to understand or duplicate the work. Entries in notebooks and logbooks will adhere to the requirements in procedure MAQ-011.

Implementation The following table lists responsibilities.

Who	What
All employees	Maintain adequate documentation of work in sufficient detail to prove authorship, authenticity, and originality. Make notebook entries in compliance with the MAQ Policy given above. Submit copies of the notebook pages and submit the completed logbooks to the records coordinator.

Section 6

Design

Design

MAQ Policy Design activities will be conducted and reviewed in accordance with established and approved procedures, incorporating and implementing sound engineering/ scientific principles and appropriate standards.

Implementation The following table lists responsibilities.

Who	What
Team leaders	<p>Ensure that applicable design requirements for the project are specified in the project plan to ensure the design process meets the requirements of the Laboratory Quality Management Plan. Develop and implement appropriate procedures. For most large design activities, involvement and review by the appropriate engineering group may be required.</p> <p>Ensure applicable requirements are followed from the LANL Engineering Standards Manual (OST 220—03-01) and LIR 220-03-01.</p>

Section 7

Procurement

Procurement

MAQ Policy Procurement of items used in MAQ will follow the Laboratory process for procurement. For commercial-grade items, MAQ will accept the qualification of suppliers performed by SUP division. The group will use laboratory purchasing mechanisms unless specialty items are needed.

Implementation The following table lists responsibilities.

Who	What
Group leader	Validate and approve all purchases in the group made through purchase cards and local vendor agreements. Assign group members to be purchase card holders and receive required training.
Program Administrator	Ensure procurements follow Laboratory-prescribed requirements for procurement.
Team leaders	Select suppliers based on evaluation of ability to supply products or services which meet project requirements.
All group employees	Follow Laboratory-prescribed requirements for procurements.

Section 8

Inspection and Acceptance Testing

Inspection and Acceptance Testing

MAQ Policy MAQ will perform appropriate inspections and tests on items critical to the quality of MAQ processes and products. Any required inspections and tests will be specified in project plans or implementing procedures.

Implementation The following table lists responsibilities.

Who	What
Team leaders	<p>Ensure project plans identify the items that require testing or inspection, the organization or team member to perform the inspection, methods and equipment to be used, and the level of documentation.</p> <p>Establish procedures providing for inspections meet the requirements of the Laboratory Quality Assurance Management Plan.</p> <p>Ensure standards and measuring and test equipment used to verify acceptability are calibrated and controlled according to Section 5 (<i>Calibration and Maintenance of Measuring and Test Equipment</i>, page 46).</p>

Section 9

Management Assessment

Management Assessments

MAQ Policy Management assessments will be planned and implemented annually to evaluate the integrated quality assurance program implementation. Problems identified during management assessments will be documented, reported to the group leader, and promptly corrected. Assessment results will be used to continuously improve the quality and efficiency of management and operations within the group.

Implementation The following table lists responsibilities.

Who	What
Group Leader	Plan and conduct annual self-assessments (procedure MAQ-029) of the management of projects within the group to evaluate the effectiveness of the teams in achieving the group mission. Document results of management assessments in a report. Initiate a deficiency (see Section 3 <i>Deficiencies and Corrective Action</i> , page 19) for deviations from requirements found during the assessment. Oversee resolution and correction of all problems found during management assessments.
Team leaders	Participate in group and project management assessments conducted by the group leader. Follow up on recommendations or deficiencies identified in the assessments.

Management Walk-arounds

MAQ Policy MAQ will comply with the requirements for regular walk-arounds as prescribed in Management Safety Walk-Arounds (LIR 307-01-03). Division offices may impose additional requirements for the conduct and documentation of walk-arounds.

The group leader will conduct walk-arounds at least once per month and as needed for hazardous operations. The group leader may request team leaders or project leaders to conduct walk-arounds of work areas under their responsibility. Work will be evaluated to requirements in the applicable project plan, implementing procedures, and applicable LIRs (or their guidance cards). All walk-arounds will be documented in the LANL walk-around system to include work observed, noteworthy practices, observations, and deficiencies. The group deficiency process (MAQ-026) will be used to document, track, and correct all deficiencies found during a walk-around.

Implementation The following table lists responsibilities.

Who	What
Group Leader	Conduct regular walk-arounds at least once per month or more often for higher risk operations. Ensure a walk-around is conducted in every major space and for every major work activity in the group at least annually. Record the performance of walk-arounds in the laboratory database.

Section 10

Independent Assessment

Independent Assessments

MAQ Policy Independent assessments (audits) will be conducted throughout the group, as specified by the group leader, to verify compliance with external regulatory drivers, LANL requirements, and all aspects of this Quality Management Plan. To evaluate the effectiveness of the quality program, trained and technically knowledgeable personnel not having direct responsibility for the areas they are assessing will conduct assessments, in accordance with written plans or procedures.

Implementation The following table lists responsibilities.

Who	What
QA Officer	<p>Schedule and coordinate independent assessments to meet external regulatory requirements, LANL requirements, or MAQ requirements, e.g.:</p> <ul style="list-style-type: none">• initial management effectiveness assessment.• biannual assessments (technical or management).• “internal” assessments by LANL’s Quality Management Group (or successor).• LANL-required audits and assessments.• Other external assessments as specified by the group leader. <p>Ensure assessments are conducted by organizations independent of MAQ, according to written plans and scopes. Track findings for MAQ.</p>

Continued on next page.

Independent Assessments, continued

Who	What
Group leader	<p>Approve assessment scope and schedules.</p> <p>Contract with assessors as appropriate.</p> <p>Ensure the assessors:</p> <ul style="list-style-type: none">• Provide a written plan and/or procedure for the assessment scope and schedule.• Monitor work performance.• Identify abnormal performance and potential problem precursors.• Identify improvement opportunities.• Report results to the level of management that has the authority to effect change.• Verify resolution of problems (optional, depending on scope of assessment).• Focus on improving the quality of the process that leads to the end product.
Team leaders	<p>Establish and document in the project plan any periodic or special assessments required by the project or by regulatory drivers. Ensure such assessments are conducted.</p>

Assessing Suppliers

MAQ Policy MAQ will accept SUP division purchasing and qualification mechanisms for qualifying vendors unless specialty items are needed from vendors that are not assessed by SUP. Assessments will be periodically conducted by MAQ to ensure required information from the following organizations meets quality specifications:

- analytical laboratories supplying data.
- other Laboratory organizations (such as LANSCE) supplying information used in compliance or other reports.
- organizations supplying services (such as the LANL support services contractor).

If problems are found with a supplier's product or service, MAQ will work with that supplier until the problem is corrected or will obtain alternate suppliers.

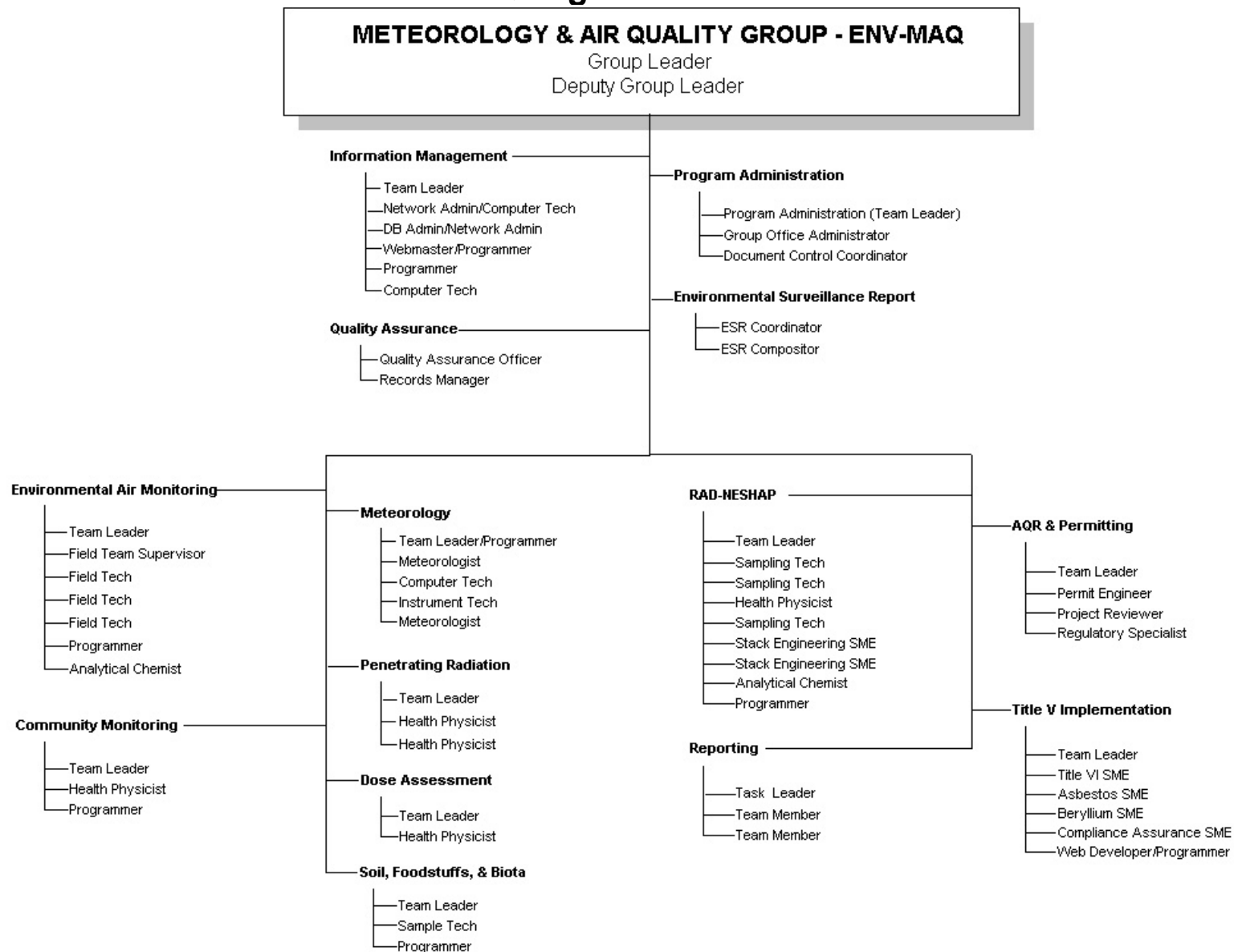
Implementation The following table lists responsibilities.

Who	What
QA Officer	Schedule and coordinate periodic assessments (e.g., by contractors or by group personnel) of suppliers as needed to ensure information or work products meets quality specifications as given in LIRs, LPRs (Laboratory Performance Requirements), or other specifications documents such as work contracts.
Team leaders	Identify need for assessments of suppliers who provide services to project (e.g., LANL support services contractor who does work for Refrigeration program). Inform QA officer of need for assessments.
All employees	Participate in assessments, as requested by project or team leaders or the group leader, as subject matter experts or quality assessors.

[Click here to record "self-study" training to this procedure.](#)

Appendix A

MAQ Organization Chart



Appendix B

References

Requirements and guidance documents:

- DOE Memo "Procedure for the Release of Residual Radioactive Material from Real Property," DOE Albuquerque Operations Office, June 16, 2000
- DOE Order 151.1, "Comprehensive Emergency Management System," changed November 1, 2000
- DOE Order 414.1B, "Quality Assurance," issued 4/29/04
- DOE Order 5400.5, "Radiation Protection of the Public and the Environment," changed January 7, 1993
- DOE/EH-0173T, "Environmental Regulatory Guide for Radiological Effluent Monitoring and Environmental Surveillance," January 1991
- EPA QA/G-4, "Guidance for the Data Quality Objectives Process," final, September 1994
- EPA QA/G-9, "Guidance for Data Quality Assessment," External Working Draft, March 27, 1995
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Title 40 Code of Federal Regulations Part 58, “Ambient Air Quality Surveillance,”
Appendix E

Group MAQ Air Quality documents:

MAQ-AIRNET, “Sampling and Analysis Plan for the Radiological Air Sampling Network”

MAQ-ASBESTOS, “Quality Assurance Project Plan for the Asbestos Report Project”

MAQ-BE-NESHAP, “Quality Assurance Project Plan for the Beryllium NESHAP
Compliance Project”

MAQ-BIOTA, “Quality Assurance Project Plan for the Biota Dose Assessment”

MAQ-BM, “Quality Assurance Project Plan for Beryllium Stack Monitoring at TA-3-141”

MAQ-DOSE, “Quality Assurance Project Plan for Public Dose Assessment”

MAQ-DPRNET, “Quality Assurance Project Plan for the Direct Penetrating Radiation
Monitoring Project”

MAQ-FOODS, “Quality Assurance Project Plan for the Foodstuffs and Biota Monitoring
Project” (in preparation)

MAQ-MET, “Quality Assurance Project Plan for the Meteorology Monitoring Project”

MAQ-NEUNET, “Quality Assurance Project Plan for the Neighborhood Environmental
Watch Network (NEUNET)”

MAQ-NonRadNET, “Quality Assurance Project Plan for the Non-Radiological Air Sampling
Network”

MAQ-ODS, “Quality Assurance Project Plan for the Ozone Depleting Substances
Compliance Project”

MAQ-OP, “Quality Assurance Project Plan for the Operating Permit Project”

MAQ-RN, “Quality Assurance Project Plan for the Rad-NESHAP Compliance Project”

MAQ-RRP, “Quality Assurance Project Plan for the Regulatory Review and Permitting
Project”

MAQ-SOILS, Quality Assurance Project Plan for the Soils Monitoring Project” (in preparation)

MAQ-022, “Preparation, Review, and Approval of Procedures”

MAQ-024, “Personnel Training”

MAQ-025, “Records Management”

MAQ-026, “Deficiency Reporting and Correcting”

MAQ-029, “Management Assessments”

MAQ-030, “Document Distribution”

MAQ-032, “Orienting New Employees”

MAQ-034, “Network Server Backup Tape Rotation, Storage, and Archiving”

MAQ-035, “Work Safety Review and Authorization”

MAQ-037, “MAQ Software Management”